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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/955,684	09/19/2001	Clint H. O'Connor	016295.0689 (DC-03044)	1191

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EXAMINER

HOSSAIN, TANIM M

ART UNIT

PAPER NUMBER

2145

DATE MAILED: 01/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/955,684

Applicant(s)

O'CONNOR ET AL.

Examiner

Tanim Hossain

Art Unit

2145

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 September 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 September 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>9/19/01</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3, 5-8, 11, 15, and 17-23 are rejected under 35 U.S.C. 102(b) as being anticipated by Reneris (U.S. 5,784,628).

As per claim 1, Reneris teaches a computer system comprising: a plurality of processing resources operable to process data (column 3, lines 3-13; where the ability to manage power constitutes the processing of data); a plurality of power supplies associated with the processing resources, the power supplies operable to supply power to the processing resources (column 3, lines 3-13); and a resource management engine associated with the processing resources, the resource management engine operable to scale the number of the processing resources in relation to a plurality of demand requirements (column 3, lines 14-42, line 64 – column 4, line 3).

As per claim 2, Reneris teaches the system of claim 1, wherein the processing resources comprise mobile processors (column 4, lines 12-21, 41-46; column 5, line 65 – column 6, line 2).

As per claim 3, Reneris teaches the system of claim 1, wherein the processing resources comprise hard disk drives (column 4, lines 47-56; column 6, lines 3-14).

As per claim 5, Reneris teaches the system of claim 1, wherein the resource management engine scales the number of processing resources by powering up additional processing resources (column 9, lines 50-54; column 13, lines 11-42).

As per claim 6, Reneris teaches the system of claim 1, wherein the resource management engine scales the number of processing resources by powering down the processing resources (column 9, lines 55-63).

As per claim 7, Reneris teaches the system of claim 6, wherein the resource management engine powering down the processing resources comprises powering off the processing resource (column 9, lines 55-63).

As per claim 8, Reneris teaches the system of claim 6, wherein the resource management engine powering down the processing resources comprises reducing the processing resource to a lower power state (column 9, lines 41-54).

As per claim 11, Reneris teaches the system of claim 1, wherein the processing resources comprise a plurality of servers (column 7, lines 22-34).

As per claim 15, Reneris teaches a method for the optimizing of power consumption by a computer system, the method comprising: receiving a demand requirement (column 10, lines 10-34; where a power reducing process takes place; column 13, lines 11-42; where a power restoration takes place); determining if the demand requirement requires a processing resource change (column 10, lines 10-34; column 13, lines 11-42); and adjusting a plurality of processing resources to satisfy the demand requirement (column 10, lines 10-34; column 13, lines 11-42).

As per claim 17, Reneris teaches a method of claim 15, wherein determining if the demand requirement requires a processing resource change comprises deciding whether to power up additional processing resources (column 13, lines 11-42).

As per claim 18, Reneris teaches a method of claim 15, wherein determining if the demand requirement requires a processing resource change comprises deciding whether to power down processing resources (column 10, lines 10-34).

As per claim 19, Reneris teaches the method of claim 15, wherein adjusting a plurality of processing resources comprises powering down processing resources when the demand requirement decreases (column 10, lines 10-34).

As per claim 20, Reneris teaches the method of claim 19, wherein powering down processing resources comprises turning off one or more processing resources (column 10, lines 10-34).

As per claim 21, Reneris teaches the method of claim 19, wherein powering down the processing resources comprises powering the processing resources to a lower power state (column 10, lines 10-57).

As per claim 22, Reneris teaches the method of claim 15, wherein adjusting a plurality of processing resources comprises powering up additional processing resources when the demand requirement increases (column 13, lines 11-42).

As per claim 23, Reneris teaches the method of claim 22, wherein powering up additional processing resources comprises integrating the additional processing resource with the already operating resources (column 13, lines 43-50).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 9, 10, 13, 14, 16, 24-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reneris in view of Lagod et al. (U.S. 6,583,521).

As per claim 9, Reneris teaches the system of claim 1, but does not specifically teach the existence of capacity tables associated with the resource management engine, used to store information. Lagod teaches the existence of a table or database to store various types of information pertaining to the power system (column 6, lines 23-29; column 7, lines 43-49). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the database containing system information into the computer system, as taught by Lagod in the system of Reneris. The motivation for doing so lies in the fact that having information stored in a database allows the computer system to make changes according to the information, and in the case of changes in information, further changes can be made accordingly. Both inventions are from the same field of endeavor, namely the efficient power management of a system.

As per claim 10, Reneris-Lagod teaches the system of claim 1, further comprising a plurality of dynamic tables associated with the resource management engine, the dynamic tables operable to store a plurality of predictive analysis information (Lagod: column 7, lines 23-30).

As per claim 13, Reneris-Lagod teaches the system of claim 1, further comprising the resource management engine predicting demand requirements (Lagod: column 7, lines 23-30, 43-49; column 8, line 66 – column 9, line 10).

As per claim 14, Reneris-Lagod teaches the system of claim 1, further comprising the resource management engine maintaining a power threshold among the processing resources and power supplies (Lagod: column 8, lines 12-30, line 66 – column 9, line 10).

As per claim 16, Reneris-Lagod teaches the method of claim 15, wherein determining if the demand requirement requires a processing resource change comprises consulting a plurality of capacity tables (Lagod: column 6, lines 22-29; column 7, lines 23-30, 42-49).

As per claim 24, Reneris-Lagod teaches the method of claim 15, further comprising: predicting future demand requirements; and adjusting the processing resources to meet the future demand requirements (Lagod: column 7, lines 23-30).

As per claim 25, Reneris-Lagod teaches the method of claim 24, wherein predicting demand requirements comprise consulting a plurality of dynamic tables (Lagod: column 5, lines 15-22; column 6, lines 22-29).

As per claim 26, Reneris-Lagod teaches the method of claim 15, further comprising maintaining a power threshold in the processing resources (Lagod: column 8, lines 12-30).

As per claim 27, Reneris-Lagod teaches a method for managing power consumption in a computer system, the method comprising: storing historical data in a plurality of dynamic tables (Lagod: column 6, lines 22-29); predicting future demand requirements using the historical data in the dynamic tables (Lagod: column 7, lines 23-30); determining if a processing resource change is needed to efficiently meet the future demand requirements (Lagod: column 7, lines

23-30); and adjusting a plurality of processing resources in advance to meet the future demand requirements (Lagod: column 7, lines 23-30).

As per claim 28, Reneris-Lagod teaches the method of claim 27, wherein predicting future demand requirements comprises dynamically adjusting for global occurrences that affect demand requirements (Lagod: column 7, lines 23-30; column 8, line 66 – column 9, line 10).

As per claim 29, Reneris-Lagod teaches the method of claim 27, wherein the historical data comprises load data from a plurality of demand requirements from previous time periods (Lagod: column 7, lines 31-42).

As per claim 30, Reneris-Lagod teaches the method of claim 27, wherein adjusting the processing resources in advance comprises powering up additional processing resources to address the future demand requirements (Lagod: column 7, lines 23-42).

Claims 4, 11, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reneris in view of Fung (U.S. 2002/0062454).

As per claim 4, Reneris teaches the system of claim 1, but does not specifically teach that the power scaling is done according to an enterprise wide power management strategy. Fung teaches the power management of multiple servers, which would obviously be in accordance with an enterprise-wide strategy for the invention to have utility (paragraph 0001). It would have been obvious to one of ordinary skill in the art at the time of the invention to include the use of an enterprise wide power management strategy, as taught by Fung in the system of Reneris. The motivation for doing so lies in the fact that for the invention to have utility, it must adhere to

company regulations so that it can be used. Both inventions are from the same field of endeavor, namely the intelligent management of power for computer resources.

As per claim 11, Reneris-Fung teaches the system of claim 1, wherein the processing resources comprise a plurality of servers (Fung: paragraph 0001).

As per claim 12, Reneris-Fung teaches the system of claim 1, wherein the processing resources comprise a plurality of racks containing a plurality of servers (Fung: paragraph 0038).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.


a. Zeller et al. (U.S. 5,926,404) teaches a computer system with unattended operation power saving suspend mode.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tanim Hossain whose telephone number is 571/272-3881. The examiner can normally be reached on 8:30 am - 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Harvey can be reached on 571/272-3896. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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Art Unit 2145


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SUPERVISOR/PATENT EXAMINER